

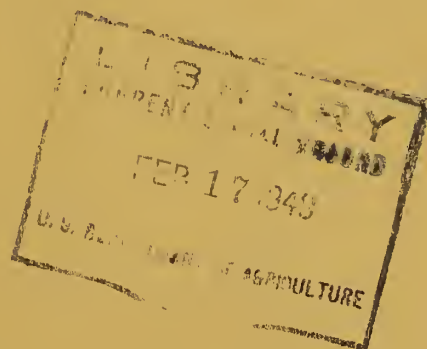
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FEDERAL-STATE COOPERATIVE SNOW SURVEYS and IRRIGATION WATER FORECASTS

for
OREGON
February 1, 1949



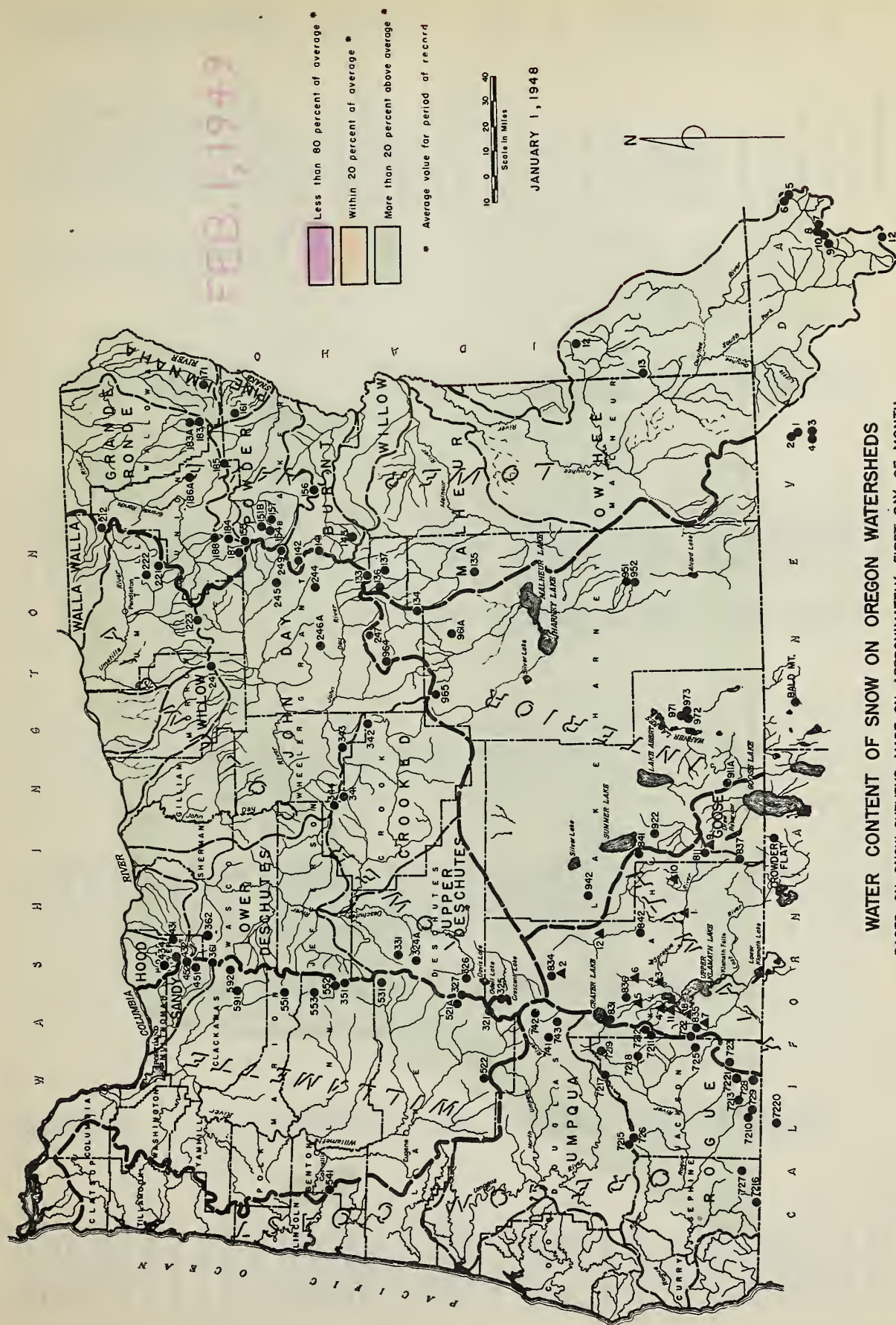
by
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Oregon Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U.S. Forest Service, National Park Service and other Federal, State, and local organizations

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR
OREGON

Report Prepared
by
W. T. Frost -- Hydraulic Engineer

Division of Irrigation
Soil Conservation Service
and
Oregon Agricultural Experiment Station
P. O. Box 1149
Medford, Oregon



(Valley Lands Not Necessarily Included)

INDEX TO SNOW COURSES

| Number | Name | Elev. | Number | Name | Elev. | Number | Name | Elev. |
|-------------------------|------------------------|-------|--------|----------------------|-------|---------------------|--------------------------|-------|
| UPPER COLUMBIA DRAINAGE | | | | | | | | |
| Lower Snake in Oregon | | | | | | | | |
| OYTHIE RIVER | | | | | | | | |
| 6 | Big Bend | 6800 | 212 | WALLA WALLA RIVER | | 551 | Breitenbush | 2325 |
| 1 | Buckskin, Lower | 6800 | | Tollgate | 5070 | 321 | Cascade Summit | 4880 |
| 2 | Buckskin, Upper | 8200 | | | | 522 | Champion | 4500 |
| 952 | Fish Creek | 7900 | | UMATILLA RIVER | | 327 | Charlton Lake | 5750 |
| 7 | Fry Canyon | 6800 | | | | 351 | Hogg Pass | 4755 |
| 5 | Gold Creek Ranger Sta. | 6600 | 222 | Emigrant Springs | 3925 | 553 | McKenzie | 4800 |
| 4 | Granite Peak | 8600 | 223 | Lucky Strike | 5050 | 541 | Marion Forks | 2730 |
| 9 | Jack Creek, Lower | 7000 | 221 | Meacham | 4300 | 552 | Mary's Peak | 3620 |
| 10 | Jack Creek, Upper | 7800 | 212 | Tollgate | 5070 | 521A | Santiam Junction | 3990 |
| 3 | Martin Creek | 7000 | | | | | Waldo Lake | 5500 |
| 8 | Rodeo Flat | 7000 | | WILLOW CREEK | | KLAMATH LAKE BASIN | | |
| 12 | Silver City | 6400 | 241 | Arbuckle Mountain | 5400 | 831 | Annie Spring | 6018 |
| 951 | Silvies | 6900 | | | | 722 | Billie Creek Divide | 6000 |
| 13 | South Mountain No. 22 | 6340 | | JOHN DAY RIVER | | 834 | Chemit No. 1 | 4760 |
| 12 | Taylor Canyon | 5200 | | | | Calif. | Crowder Flat | 5200 |
| MALHEUR RIVER | | | | | | | | |
| | | | 241 | Arbuckle Mountain | 5400 | 723 | Hyatt Prairie Reservoir | 4900 |
| | | | 266A | Beech Creek Summit | 4800 | 835 | Lake of the Woods No. 1 | 4950 |
| 133 | Blue Mountain Spring | 5900 | 133 | Blue Mountain Spring | 5900 | 811 | Quartz Mountain | 5320 |
| 137 | Crane Prairie | 5375 | 141 | Blue Mountain Summit | 5098 | 7211 | Seven Lakes No. 1 | 6800 |
| 136 | Lake Creek | 5120 | 244 | Dixie Springs | 6650 | 7212 | Seven Lakes No. 2 | 6200 |
| 134 | Rock Spring | 5100 | 249 | Gold Center | 5340 | 837 | Strawberry | 5600 |
| 135 | Stinking Water | 4800 | 964 | Izee Summit | 5293 | 841 | Summer Rim | 7200 |
| | | | 245 | Olive Lake | 6000 | 836 | Sun Mountain | 5350 |
| | | | 965 | Snow Mountain | 6300 | 842 | Taylor Butte | 5100 |
| | | | 247B | Starr Ridge | 5150 | GOOSE LAKE BASIN | | |
| BURNT RIVER | | | | | | | | |
| 143 | Barney Creek | 5950 | 911A | Camas Creek | 5720 | WEST COAST DRAINAGE | | |
| 141 | Blue Mountain Summit | 5098 | 811 | Quartz Mountain | 5320 | UMPOUA RIVER | | |
| 156 | Dooley Mountain | 5430 | 837 | Strawberry | 5600 | | | |
| 142 | Tipton | 5100 | | | | | | |
| POWDER RIVER | | | | | | | | |
| 155 | Anthony Lake | 7125 | 326 | Caldwell Ranch | 4400 | 522 | Champion | 4500 |
| 154 | Bourne | 5800 | 321 | Cascade Summit | 4880 | 743 | Diamond Lake | 5315 |
| 156 | Dooley Mountain | 5430 | 327 | Charlton Lake | 5750 | 726 | Goolaway Gap | 3000 |
| 151B | Ellertson Meadows | 5400 | 361 | Clear Lake | 3500 | 7215 | Goolaway Mountain | 3730 |
| 249 | Gold Center | 5340 | 325 | Crescent Lake | 4760 | 742 | N.Jumpua near Lake Creek | 4215 |
| 157 | Goodrich Lake | 6775 | 343 | Derr | 5670 | 741 | Trap Creek | 3800 |
| 184 | Summit Springs | 6000 | 351 | Hogg Pass | 4755 | 7217 | Whaleback | 5140 |
| 185 | Taylor Green | 5740 | 344 | Marks Creek | 4540 | ROGUE RIVER | | |
| | | | 324A | New Dutchman Flat | 6400 | 7216 | Althouse | 4400 |
| | | | 341 | Ochoo Meadows | 5200 | 831 | Annie Spring | 6018 |
| | | | 362 | Rock Creek | 4200 | 729 | Big Red Mountain | 6500 |
| | | | 965 | Snow Mountain | 6300 | 722 | Billie Creek Divide | 6000 |
| | | | 342 | Tamarack | 4800 | 725 | Fish Lake | 4865 |
| | | | 331 | Three Creeks Meadows | 5600 | 726 | Goolaway Gap | 3000 |
| PINE CREEK | | | | | | | | |
| 161 | Schneider Meadows | 5400 | | HOOD RIVER | | 725 | Goolaway Mountain | 3730 |
| | | | 431 | Brooks Meadows | 4300 | 727 | Grayback Peak | 6000 |
| | | | 434 | Red Hill | 4400 | 7221 | Hobart Lake | 5010 |
| | | | 432 | Tilly Jane-Mt. Hood | 6000 | 723 | Hyatt Prairie Reservoir | 4900 |
| 171 | Coverdale | 4250 | | SANDY RIVER | | 7210 | Little Red Mountain | 6500 |
| | | | 361 | Clear Lake | 3500 | 7220 | Soragge Mountain | 6200 |
| | | | 452 | Phlox Point-Mt. Hood | 5600 | 7211 | Seven Lakes No. 1 | 6800 |
| | | | 451 | Still Creek | 3700 | 7212 | Seven Lakes No. 2 | 6200 |
| GRANDE RONDE RIVER | | | | | | | | |
| 183 | Aneroid Lake | 7480 | | CLACKAMAS RIVER | | 728 | Silver Burn | 3720 |
| 183A | Aneroid Lake No. 2 | 7000 | | | | 7218 | Slaskiyou Summit | 4630 |
| 155 | Anthony Lake | 7125 | | | | 7213 | South Fork Canal | 3500 |
| 188 | Beaver Reservoir | 5340 | 592 | Clackamas Lake | 3400 | 7217 | Wagner Butte | 6900 |
| 187 | Camp Carson | 5970 | 591 | Peavine Ridge | 3500 | | Whaleback | 5140 |
| 186A | Moss Spring | 5850 | | | | | | |
| 184 | Summit Springs | 6000 | | | | | | |
| 185 | Taylor Green | 5740 | | | | | | |
| 212 | Tollgate | 5070 | | | | | | |

February 1, 1949

PRELIMINARY WATER SUPPLY OUTLOOK

The outlook for Oregon's 1949 water supplies for irrigation is excellent with mountain snow cover already considerably above normal throughout the state. If snow continues to accumulate even at normal rate, a potential flood hazard exceeding that of 1948 will exist. Reservoired water supplies are generally "good" to "excellent."

Mountain snow cover, as of February 1, averages 156 percent normal throughout the state with greatest accumulations on the northern Cascades where it varies from 190 to 250 percent normal and in the Blue Mountains where it is 150 to 200 percent normal. The snow above 5000 feet is 144 percent average and 159 percent of last year while the low-elevation snow between 2000 and 5000 feet is now 221 percent average and 306 percent of last year. This abundant low-elevation snow is very important.

The flood potential of the present snow cover in the Willamette, Umpqua, and Rogue River basins is high and would produce severe winter floods should a warm period occur together with a rainfall on the abnormally heavy low-elevation snow. Continued heavy snowfall for the balance of the winter with a late cold spring may cause spring flood conditions as great as or exceeding those of last year on most Oregon drainages.

Watershed soils are generally well saturated and mostly unfrozen under the snow. This condition favors a well sustained runoff from the spring snow-pack.

Total water stored in all reservoirs is 5 percent less than at this time last year, 19 percent less than in 1947 and 23 percent less than average. Only one-third of the more important reservoirs are half full or better. In spite of this, general reservoir supplies are "good" except for the Owyhee, Warm Springs, Gerber and Clear Lake reservoirs which now hold "fair" supplies.

A tabulation of preliminary streamflow forecasts is presented on pages 2 and 3 of this report.

PRELIMINARY STREAMFLOW FORECASTS, FEBRUARY 1, 1949

The following preliminary runoff forecasts are based on present mountain snow cover and on the assumption that average February and March increase of snow cover will occur. Greater or less than average increase in mountain snow cover during the next two months will correspondingly modify these estimates:

| BASIN AND STREAM | Apr.-Sept., inc. Streamflow in Thous. Ac. Ft. | | | | |
|-------------------------------------|-----------------------------------------------|-------------------|-------------------|-------------------|----------------------|
| | Forecast | Measured Runoff | | 10-yr. avg. | |
| | 1949 | 1948 | 1947 | 1946 | 1938-47 |
| <u>NORTHCENTRAL OREGON</u> | | | | | |
| Hood River, W. Fk. near Dee | 210.0 | a | 149.8 | 164.7 | 131.8 |
| <u>UMATILLA-WALLA WALLA</u> | | | | | |
| Walla Walla R. So. Fk. nr. Milton | 85.0 | a | 62.7 | 75.0 | 62.4 |
| Umatilla R. at Pendleton | 235.0 | a | 96.4 | 194.0 | 145.1 |
| McKay Ck. above McKay Reservoir | 35.0 | a | 16.1 | 20.9 | 25.1 |
| <u>NORTHEASTERN OREGON</u> | | | | | |
| Bear Ck. near Wallowa | 66.0 | a | 69.6 | 83.4 | 65.8 |
| Grande Ronde R. nr. LaGrande | 220.0 | a | 118.8 | 179.6 | 151.1 |
| Catherine Ck. near Union | 90.0 | a | 60.9 | 76.0 | 66.3 |
| Lostine R. near Lostine | 120.0 | a | 127.7 | 149.7 | 117.5 |
| Hurricane Ck. near Joseph | 45.0 | a | 49.9 | 54.3 | 43.0 |
| Wallowa R. E. Fk. plus Power Pl. | 11.5 | a | 10.4 | 13.3 | 11.1 |
| Imnaha River at Imnaha | 300.0 | a | 228.1 | 320.5 | 286.6 |
| Powder River at Salisbury | 55.0 | a | 43.6 | 76.4 | 57.8 |
| Burnt R. nr. Herford (Natural Flow) | 37.0 | 62.7 | 20.2 | 52.8 | 35.5 |
| <u>EASTERN OREGON</u> | | | | | |
| Malheur R. Mid. Fk. nr. Drewsey | 60.0 | 74.0 | 34.1 | 83.6 | 75.3 |
| Malheur R. N. Fk. at Beulah | 50.0 | 64.5 | 32.7 | 68.9 | 59.8 |
| Strawberry Ck. nr. Prairie City | 7.0 | a | 7.9 | 9.9 | 8.0 |
| <u>HARNEY BASIN</u> | | | | | |
| Silvies R. near Burns | 75.0 | a | 47.7 | 99.6 | 88.6 |
| <u>CENTRAL OREGON</u> | | | | | |
| Ochoco Reservoir Net Inflow | 27.0 | a | 8.2 | 46.4 | 19.9 |
| Crescent Lake Net Inflow | 25.0 | a | 19.2 | 22.2 | 13.7 |
| Odell Ck. near Crescent | 37.0 | a | 28.8 | 32.6 | 24.8 |
| Tumalo Creek and C.S. Canal | 55.0 | a | 49.1 | 60.9 | 43.4 |
| Squaw Creek near Sisters | 60.0 | a | 45.7 | 63.5 | 44.0 |
| <u>SOUTHCENTRAL OREGON</u> | | | | | |
| Deep Creek above Adel | 60.0 ^b | a | 29.1 ^b | 57.6 ^b | 59.4 ^b |
| <u>KLAMATH BASIN</u> | | | | | |
| Upper Klamath Lake Net Inflow | 669.5 | 474.8 | 326.2 | 536.7 | 484.0 |
| Clear Lake Res. Net Inflow | 140.0 ^c | 54.5 ^c | 27.9 ^c | - | 110.7 ^{c,d} |
| Gerber Res. Net Inflow | 70.0 ^c | 32.7 ^c | 18.2 ^c | - | 52.5 ^{c,d} |

a- Discharge Data not available

b- April-June rather than April-Sept.

c- Water year October 1 to September 30

d- Average for period of record.

(Continued)

| BASIN AND STREAM | Apr.-Sept., inc. Streamflow in Thous. Ac. Ft. | | | | |
|----------------------------------------------------------|-----------------------------------------------|-----------------|--------|-------------|---------|
| | Forecast | Measured Runoff | | 10-yr. avg. | |
| | 1949 | 1948 | 1947 | 1946 | 1938-47 |
| <u>SOUTHERN OREGON</u> | | | | | |
| Applegate R. near Ruch | 140.0 | a | 64.6 | 129.6 | 116.4 |
| Hyatt Res. Net Inflow | 7.0 | a | 2.1 | 5.5 | 5.3 |
| Fourmile Lake Net Inflow | 8.0 | a | 6.0 | 8.7 | 6.7 |
| Little Butte Ck. N.Fk. below Fish Lake (Natural Flow) | 15.0 | a | 10.1 | 15.7 | 13.2 |
| Rogue R. N.Fk. above Prospect | 340.0 | 343.7 | 248.8 | 370.4 | 282.6 |
| Clearwater River above Trap Ck. | 60.0 | a | 61.4 | 65.7 | 58.5 |
| No. Umpqua R. below Lake Creek | 160.0 | a | 157.0 | 179.1 | 150.2 |
| <u>WILLAMETTE VALLEY</u> | | | | | |
| Willamette R. Mid.Fk. at Eula | 775.0 | a | 737.1 | 830.3 | 704.1 |
| McKenzie R. at McKenzie Bridge | 650.0 | a | 501.2 | 595.2 | 500.3 |
| McKenzie River near Vida | 1375.0 | a | 1084.2 | 1227.8 | 1054.8 |

- a - Discharge Data not available
b - April-June rather than April-September
c - Water year October 1 to September 30
d - Average for period of record

The following table gives a comparison of 1949 snow-water content with February 1, 1948 and 1947 and with the average for major Oregon drainages:

1949 Snow water content as Percent of that in

| <u>Drainage</u> | <u>1948</u> | <u>1947</u> | <u>Average</u> |
|-----------------|-------------|-------------|----------------|
| Owyhee | 208 | 161 | 129 |
| Malheur | 240 | 185 | 128 |
| Burnt | 147 | 180 | 140 |
| Powder | 125 | 126 | 125 |
| Grande Ronde | 130 | 122 | 147 |
| Walla Walla | 142 | 174 | 181 |
| Umatilla | 174 | 206 | 194 |
| John Day | 149 | 159 | 147 |
| Deschutes | 227 | 184 | 190 |
| Crooked | 180 | 277 | 163 |
| Sandy | 179 | 138 | 204 |
| Clackamas | 297 | 204 | 224 |
| Willamette | 259 | 223 | 237 |
| Umpqua | 249 | 288 | 190 |
| Rogue | 216 | 170 | 150 |
| Klamath | 283 | 208 | 150 |
| Goose Lake | 360 | 225 | 133 |
| Harney Lake | 183 | 244 | 150 |

COMPARISON OF SNOW COVER AS OF FEBRUARY FIRST WITH THAT OF PREVIOUS YEARS

Snow-stored water now present above 5,000 feet: Snow-stored water now present from 2,000-5,000 feet:
 As percent of that present one month ago -- 121 As percent of that present one month ago -- 123
 As percent of that present one year ago -- 159 As percent of that present one year ago -- 306
 As percent of that present two years ago -- 145 As percent of that present two years ago -- 273
 As percent of average -- 144 As percent of average -- 221

Snow water content on all measured courses is more than at this time in 1948, and in 96 percent of the comparisons is greater than on about February 1, 1947. Snow water content on 99 percent of all measured courses is greater than average.

Comparative table of eleven scattered snow courses of greatest record length.

| River Basin Snow Course Year | Snow Water Content (Inches) as of About February 1 | | | | | | | | | | |
|------------------------------------------|----------------------------------------------------|----------|---------------|-----------------|----------------|----------------------|---------|----------------|----------------|--------------------|------------------|
| | Walla | Umatilla | Walla | Wallowa | Burnt River | Malheur- John Day | Crooked | Ochoco | Goose Lake | Klamath Chemult | Klamath Rogue |
| | Toll- gate | Meacham | Toll- gate | Aneroid Lake | Blue Mtn. | Blue Mtn. | Maws. | Quartz Mtn. | Quartz Mtn. | Chemult | Annie Spring |
| | Summit | Summit | Summit | Summit | Summit | Summit | Summit | Summit | Summit | Summit | Summit |
| 1929 | 23.2 | 9.2 | - | 7.7 | - | - | 4.3 | 4.0 | 4.0 | 6.5 | 20.3 |
| 1930 | 10.3 | 3.5 | - | 15.2 | - | 4.4 | 3.8 | 6.0 | 6.0 | 4.6 | 19.5 |
| 1931 | 11.2 | 6.2 | 14.1 | 13.0 | - | 3.6 | 5.6 | 4.0 | 4.0 | 6.1 | N.R. |
| 1932 | 28.0 | 9.3 | 23.7 | 28.4 | 6.1 | 13.7 | 10.0 | 6.9 | 6.9 | 12.8 | 22.3 |
| 1933 | 27.8 | 5.6 | N.R. | 26.0 | N.R. | 13.0 | 6.5 | 5.9 | 5.9 | 11.1 | N.R. |
| 1934 | N.R. | 0.5 | 12.5 | N.R. | N.R. | N.R. | N.R. | 1.0 | 1.0 | T | N.R. |
| 1935 | 28.1 | 5.6 | 18.2 | 21.2 | N.R. | 11.0 | 9.4 | 7.7 | 7.7 | 8.6 | 33.4 |
| 1936 | N.R. | 11.2 | 27.8 | 17.3 | 7.8 | 13.4 | 13.5 | 11.3 | 11.3 | 9.4 | 37.2 |
| 1937 | 25.1 | 9.3 | 16.6 | 9.3 | 6.4 | 8.2 | 6.1 | 4.1 | 4.1 | 7.0 | N.R. |
| 1938 | 8.8 | 2.1 | 9.7 | 21.0 | 1.8 | 9.0 | N.R. | N.R. | N.R. | 4.1 | 22.8 |
| 1939 | 17.4 | 4.0 | 14.1 | 13.4 | 5.0 | 7.4 | 5.7 | 2.2 | 2.2 | 5.3 | 26.5 |
| 1940 | 6.3 | 2.3 | 5.9 | 16.5 | 1.8 | 3.6 | 1.8 | T | T | 5.5 | 20.5 |
| 1941 | 13.5 | 4.0 | 14.1 | 19.3 | 5.3 | 13.4 | 8.6 | 5.0 | 5.0 | 8.1 | 36.8 |
| 1942 | 10.6 | 3.5 | 7.0 | 22.4 | 4.8 | 6.8 | 5.9 | 3.8 | 3.8 | 6.3 | 18.1 |
| 1943 | 37.0 | 10.6 | 28.8 | 28.6 | 12.4 | 23.0 | 13.7 | 9.4 | 9.4 | 20.5 | 40.8 |
| 1944 | 7.3 | 3.1 | 8.4 | 12.2 | 2.5 | 4.0 | 2.7 | 2.3 | 2.3 | 4.2 | 14.3 |
| 1945 | 8.7 | 4.6 | 8.2 | 12.8 | 3.4 | 4.9 | 4.7 | 4.8 | 4.8 | 3.7 | 13.4 |
| 1946 | 35.8 | 9.6 | 27.1 | 29.1 | 9.5 | 14.1 | 12.8 | 7.9 | 7.9 | 13.9 | 42.2** |
| 1947 | 18.0 | 4.4 | 16.7 | 25.9 | 5.1 | 9.3 | 2.8 | 2.6 | 2.6 | 1.0 | 20.5 |
| 1948 | 13.8 | 6.5 | 20.5 | 20.0 | 6.2 | 7.0 | 6.0 | T | T | 4.1 | 18.4 |
| 1949 | 32.1 | 13.5 | 29.1 | 23.3 | 8.9 | 11.9 | 11.3 | 6.6 | 6.6 | 8.2 | 31.5 |

Greatest, and least, Feb. 1, water content, are underscored. N.R.--No report T-Trace *-(Feb. 15) **-(Jan. 17)

STATUS OF SNOW COVER AS OF FEBRUARY FIRST
Summary of Snow Survey Data
By Watersheds as of About February First

| Stream Basin | Number of Snow Courses Averaged | Average Water Depth in Snow Cover (Inches) | | | | Yrs. of Rec- ord | 1949 Snow Water Depth (Inches) as Percent of that in | | |
|--------------------|------------------------------------------|-----------------------------------------------|------|------|--------------------------------|---------------------------|---------------------------------------------------------------|------|------|
| | | 1949 | 1948 | 1947 | Avg. past yrs. of record | | 1948 | 1947 | Avg. |
| Cwyhee River | 1 | 10.6 | 5.1 | | | | 208 | | |
| | 1 | 10.6 | | 6.6 | | (8) | | 161 | |
| | 1 | 10.6 | | | 8.2 | | | | 129 |
| Malheur River | 3 | 7.2 | 3.0 | | | | 240 | | |
| | 3 | 7.2 | | 3.9 | | (11-18) | | 185 | |
| | 3 | 7.2 | | | 5.6 | | | | 128 |
| Burnt River | 2 | 8.1 | 5.5 | | | | 147 | | |
| | 2 | 8.1 | | 4.5 | | (10-14) | | 180 | |
| | 2 | 8.1 | | | 5.8 | | | | 140 |
| Powder River | 4 | 16.6 | 13.3 | | | | 125 | | |
| | 4 | 12.4 | | 9.8 | | (1-10) | | 126 | |
| | 5 | 15.0 | | | 12.0 | | | | 125 |
| Pine Creek | 1 | 21.3 | 15.2 | | | | 140 | | |
| | 1 | 21.3 | | 18.0 | | (11) | | 118 | |
| | 1 | 21.3 | | | 18.6 | | | | 114 |
| Imnaha River | 2 | 20.4 | 18.2 | | | | 112 | | |
| | 2 | 20.4 | | 23.2 | | (7-19) | | 88 | |
| | 2 | 20.4 | | | 18.2 | | | | 112 |
| Grande Ronde River | 8 | 19.3 | 14.8 | | | | 130 | | |
| | 8 | 19.3 | | 15.8 | | (6-20) | | 122 | |
| | 8 | 19.3 | | | 13.1 | | | | 147 |
| Walla Walla River | 1 | 29.1 | 20.5 | | | | 142 | | |
| | 1 | 29.1 | | 16.7 | | (17) | | 174 | |
| | 1 | 29.1 | | | 16.1 | | | | 181 |
| Umatilla River | 3 | 18.8 | 10.8 | | | | 174 | | |
| | 4 | 16.9 | | 8.2 | | (9-20) | | 206 | |
| | 4 | 16.9 | | | 8.7 | | | | 194 |
| Willow Creek | 1 | 9.5 | 7.3 | | | | 130 | | |
| | 1 | 9.5 | | 5.1 | | (19) | | 186 | |
| | 1 | 9.5 | | | 7.2 | | | | 132 |
| John Day River | 8 | 9.7 | 6.5 | | | | 149 | | |
| | 8 | 9.7 | | 6.1 | | (9-19) | | 159 | |
| | 8 | 9.7 | | | 6.6 | | | | 147 |
| Deschutes River | 3 | 30.2 | 13.3 | | | | 227 | | |
| | 4 | 25.1 | | 13.6 | | (7-18) | | 184 | |
| | 4 | 25.1 | | | 13.2 | | | | 190 |

(Continued)

| Stream Basin | Number of Snow Courses Averaged | Average Water Depth in Snow Cover (Inches) | | | | Yrs. of Rec- ord | 1949 Snow Water Depth (Inches) as Percent of that in | | |
|-------------------|------------------------------------------|-----------------------------------------------|------|------|--------------------------------|---------------------------|---------------------------------------------------------------|------|-----|
| | | 1949 | 1948 | 1947 | Avg. past yrs. of record | | 1948 | 1947 | Avg |
| Crooked River | 3 | 8.3 | 4.6 | | | | 180 | | |
| | 3 | 8.3 | | 3.0 | | (11-19) | | 277 | |
| | 3 | 8.3 | | | 5.1 | | | | 163 |
| Hood River | 2 | 32.8 | 12.9 | | | | 254 | | |
| | 2 | 32.8 | | - | | (1) | | - | |
| | 2 | 32.8 | | | 12.9 | | | | - |
| Sandy River | 2 | 44.0 | 24.6 | | | | 179 | | |
| | 2 | 44.0 | | 32.0 | | (11) | | 138 | |
| | 2 | 44.0 | | | 21.6 | | | | 204 |
| Clackamas River | 1 | 19.0 | 6.4 | | | | 297 | | |
| | 1 | 19.0 | | 9.3 | | (11) | | 204 | |
| | 1 | 19.0 | | | 8.5 | | | | 224 |
| Willamette River | 7 | 30.8 | 11.9 | | | | 259 | | |
| | 6 | 29.0 | | 13.0 | | (5-18) | | 223 | |
| | 7 | 30.8 | | | 13.0 | | | | 237 |
| Silver Lake Basin | 1 | 4.4 | 0.0 | | | | - | | |
| | 1 | 4.4 | | T | | (9) | | - | |
| | 1 | 4.4 | | | 2.3 | | | | 191 |
| Warner Lake | 1 | 9.3 | 3.9 | | | | 238 | | |
| | 1 | 9.3 | | 3.1 | | (10) | | 300 | |
| | 1 | 9.3 | | | 6.4 | | | | 145 |
| Harney Basin | 4 | 6.6 | 3.6 | | | | 183 | | |
| | 4 | 6.6 | | 2.7 | | (13-16) | | 244 | |
| | 4 | 6.6 | | | 4.4 | | | | 150 |
| Umpqua River | 3 | 21.9 | 8.8 | | | | 249 | | |
| | 4 | 23.0 | | 8.0 | | (5-20) | | 288 | |
| | 4 | 23.0 | | | 12.1 | | | | 190 |
| Upper Rogue River | 8 | 16.2 | 7.5 | | | | 216 | | |
| | 10 | 18.0 | | 10.6 | | (1-16) | | 170 | |
| | 11 | 17.0 | | | 11.3 | | | | 150 |
| Applegate River | 2 | 18.0 | 7.9 | | | | 228 | | |
| | 5 | 16.0 | | 8.5 | | (7-13) | | 188 | |
| | 5 | 16.0 | | | 12.6 | | | | 127 |
| Illinois River | 2 | 8.5 | - | | | | - | | |
| | 2 | 8.5 | | 3.0 | | (10-12) | | 283 | |
| | 2 | 8.5 | | | 7.8 | | | | 109 |

(Continued)

| Stream Basin | Number of Snow Courses Averaged | Average Water Depth in Snow Cover (Inches) | | | | Yrs. of Rec- ord | 1949 Snow Water Depth (Inches) as Percent of that in | | |
|--------------------|------------------------------------------|-----------------------------------------------|------|------|--------------------------------|---------------------------|---------------------------------------------------------------|------|------|
| | | 1949 | 1948 | 1947 | Avg. past yrs. of record | | 1948 | 1947 | Avg. |
| Klamath Lake Basin | 15 ¹ / ₂ | 10.2 | 3.6 | | | | 283 | | |
| | 18 ¹ / ₂ | 10.2 | | 4.9 | | (3-22) | | 208 | |
| | 16 ¹ / ₂ | 10.2 | | | 6.8 | | | | 150 |
| Goose Lake Basin | 3 ¹ / ₂ | 7.2 | 2.0 | | | | 360 | | |
| | 3 ¹ / ₂ | 7.2 | | 3.2 | | (10-19) | | 225 | |
| | 3 ¹ / ₂ | 7.2 | | | 5.4 | | | | 133 |

*Including Copco water measurement stations.



STATUS OF RESERVOIR STORAGE, FEBRUARY 1, 1949

| BASIN and STREAM | RESERVOIR | USABLE CAPACITY (Thous.A.F.) | THOUSANDS ACRE FEET IN STORAGE ABOUT FEB. 1 | | | | |
|-------------------------|----------------------------|------------------------------------|---------------------------------------------|-------|-------|-------|-------------------------|
| | | | 1949 | 1948 | 1947 | 1946 | 10 year avg. 1938-47 |
| UPPER COLUMBIA DRAINAGE | | | | | | | |
| LOWER SNAKE IN OREGON | | | | | | | |
| <u>Owyhee</u> | Antelope | 36.5 | 0.0 | 3.8 | 2.8 | 0.0 | 3.8 ^d |
| | Owyhee | 715.0 | 270.9 | 310.1 | 467.4 | 561.0 | 498.7 |
| <u>Malheur</u> | Warm Springs | 191.0 | 14.1 ^e | 25.0 | 97.5 | 81.2 | 97.1 |
| | Agency Valley | 60.0 | 34.9 | 35.6 | 35.2 | 39.3 | 37.4 |
| <u>Burnt</u> | Unity | 25.2 | 8.5 | 4.6 | 8.1 | 11.4 | 9.6 ^f |
| <u>Powder</u> | Thief Valley | 17.4 | 2.1 ^g | 17.4 | 15.6 | 12.2 | 12.2 |
| <u>Grande Ronde</u> | Wallowa Lake | 40.9 | 19.2 | 18.1 | 25.4 | 11.2 | 21.2 |
| LOWER COLUMBIA DRAINAGE | | | | | | | |
| <u>Umatilla</u> | McKay | 74.0 | 26.2 | 53.7 | 48.9 | 36.0 | 33.4 |
| | Cold Springs | 50.0 | 23.8 | 38.2 | 32.9 | 30.8 | 28.7 |
| <u>Deschutes</u> | Ochoco | 46.0 | 31.2 ^g | 20.9 | 25.0 | 36.3 | 17.2 |
| | Crescent Lake | 80.0 | 52.4 | 43.8 | 49.0 | 30.1 | 35.3 |
| | Crane Prairie | 50.0 | 34.8 ^h | 39.2 | 41.4 | 36.7 | 31.3 ⁱ |
| | Wickiup | 180.0 | 160.4 | 122.2 | 68.8 | 43.0 | 32.3 ⁱ |
| <u>Willamette</u> | Cottage Grove | 30.1 ^b | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 ⁱ |
| | Fern Ridge | 94.2 ^b | 1.2 | 1.6 | 0.0 | 0.0 | 11.9 ^j |
| WEST COAST DRAINAGE | | | | | | | |
| <u>Rogue</u> | Fish Lake | 7.7 | 5.0 | 3.2 | 4.0 | 3.7 | 4.3 |
| | Fourmile Lake ^a | 16.0 | 7.2 ^e | 2.1 | 4.5 | 4.9 | 6.7 |
| | Emigrant Gap | 8.2 | 5.3 | 8.3 | 2.3 | 8.2 | 4.9 |
| | Hyatt Prairie ^a | 16.0 | 7.0 | 2.7 | 2.1 | 2.0 | 5.0 |
| <u>Klamath</u> | Upper Klamath Lake | 584.0 ^c | 271.6 | 283.3 | 243.8 | 388.5 | 350.4 |
| | Gerber | 94.0 | 14.6 | 20.9 | 29.2 | 31.6 | 39.1 |
| | Clear Lake | 440.2 | 135.4 | 145.1 | 203.2 | 252.2 | 204.5 |
| <u>Goose Lake</u> | Cottonwood | 4.1 | 0.0 | 0.0 | 0.0 | N.R. | 0.1 ^m |
| | Drew | 62.5 | 36.5 | 22.3 | 24.8 | N.R. | 33.7 ^k |

N.R. - No Report

a - By ditch to Rogue River side
from Klamath drainage

b - Storage space reserved for flood control

c - Based on gage zero elevation of 4135.0

d - Excl. '43

e - January 22

f - Excl. '38

g - January 15

h - January 12

i - 1943-47

j - 1942-47

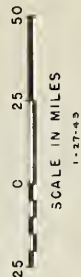
k - Excl. '46

m - Excl. '38, '42, '46

IMPORTANT OREGON RESERVOIRS



| RESERVOIR NAME | NUMBER |
|--------------------|--------|
| Agency Valley | 1354 |
| Antelope | 1230 |
| Clear Lake | 823 |
| Clear Lake | 36R1 |
| Cold Springs | 22R1 |
| Cottage Grove | 5220 |
| Cottonwood | 8115 |
| Crane Prairie | 3220 |
| Crescent Lake | 322 |
| Drew Creek | 814 |
| Emigrant Gap | 7267 |
| Fern Ridge | 5413 |
| Fish Lake | 7237 |
| Four Mile Lake | 8321 |
| Gerber | 8215 |
| Hyatt Prairie | 8320 |
| McKay | 2231 |
| Ochoco | 3420 |
| Owyhee | 1234 |
| Rock Creek | 36R3 |
| Thief Valley | 1514 |
| Thompson Valley | 9411 |
| Unity | 1415 |
| Upper Klamath Lake | 832 |
| Wallowa Lake | 186 |
| Worm Springs | 1322 |
| Wickiup | 3137 |
| Willow Creek No. 3 | 1323 |



VALLEY PRECIPITATION^a

| DRAINAGE DIVISIONS | CURRENT YEAR | | LAST YEAR | |
|-----------------------|-----------------------------|-------|-----------------------------|-------|
| | Oct. 1, 1948 - Feb. 1, 1949 | | Oct. 1, 1947 - Feb. 1, 1948 | |
| | P | D | P | D |
| Southeastern | 2.79 | -1.13 | 3.40 | -0.55 |
| Southcentral | 3.33 | -0.80 | 6.56 | -0.90 |
| Central | 5.31 | +0.19 | 6.93 | +1.26 |
| Columbia River | 7.62 | -0.29 | 8.31 | +2.19 |
| Wallowa Mountains | 5.39 | -0.71 | 6.21 | -0.38 |
| Blue Mountains | 6.10 | -0.23 | 8.93 | +1.33 |
| Southern | 10.87 | -1.86 | 13.81 | +1.05 |
| Willamette Valley | 27.59 | -0.90 | 33.84 | +5.52 |

P - Inches Precipitation

D - Inches Departure from Normal

| | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|
| <u>Southeastern</u> - | Malheur and Owyhee drainages. |
| <u>Southcentral</u> - | Interior Basin drainages and Goose Lake. |
| <u>Central</u> - | Deschutes and Crooked drainages. |
| <u>Columbia River</u> - | Lower valleys of the Walla Walla, Umatilla, John Day, Deschutes and Hood River drainages. |
| <u>Wallowa Mountains</u> - | Imnaha, Wallowa, Catherine, Eagle and Pine drainages. |
| <u>Blue Mountains</u> - | Upper valleys of the Burnt, Powder, Grande Ronde, Umatilla, Walla Walla, John Day, Silvies and Malheur drainages. |
| <u>Southern</u> - | Umpqua, Rogue and Klamath drainages. |
| <u>Willamette Valley</u> - | All Willamette drainages. |

Note: There is greater than usual difference between valley precipitation, now 90 percent normal, and accumulated mountain snow, now 156 percent normal in the state. It is obvious that considerable caution should therefore be employed in attempting to forecast stream discharge from precipitation rather than snow data.

a - Preliminary data computed from Weather Bureau records.



OREGON SNOW SURVEYS, FEBRUARY, 1949

SNOW COVER MEASUREMENTS

LOCATION

| DRAINAGE BASIN and SNOW COURSE | | Number or State | Sec. | Twp. | Range | Elev. | Date of Survey | Water Content (In.) | | | Years of Record | Past Record Av. Water Content (Inches) |
|-------------------------------------------|-------|-----------------------|------|------|-------|-------|----------------------|------------------------|-------------|-----------------|-----------------------|-------------------------------------------------|
| | | | | | | | | Snow Depth (In.) | 1949 | 1948 | | |
| U P P E R C O L U M B I A D R A I N A G E | | | | | | | | | | | | |
| L O W E R S N A K E I N O R E G O N | | | | | | | | | | | | |
| OWYHEE RIVER | | | | | | | | | | | | |
| Big Bend | Nev. | 30 | 45N | 53E | 6700 | 2-2 | 31.6 | 8.4 | No previous | February survey | " | |
| Gold Creek | Nev. | 31 | 45N | 56E | 6600 | 2-2 | 24.9 | 5.8 | " | " | " | |
| South Mountain No. 2 | Idaho | 35 | 7S | 5W | 6340 | 2-3 | 40.5 | 10.6 | 5.1 | 6.3 | 8 | 8.2 |
| MALHEUR RIVER | | | | | | | | | | | | |
| Blue Mountain Springs | 133 | 21 | 15S | 35E | 5900 | 1-27 | 41.5 | 11.9 | 7.0 | 9.3 | 18 | 9.4 |
| Rock Spring | 134 | 23 | 16S | 32E | 5100 | 1-29 | 24.5 | 5.8 | 3.0 | 2.3 | 13 | 4.3 |
| Stinkingwater | 135 | 33 | 21S | 34E | 4800 | 1-31 | 18.8 | 4.0 | T | T | 11 | 3.1 |
| BURNT RIVER | | | | | | | | | | | | |
| Blue Mountain Summit | 141 | 6 | 12S | 36E | 5098 | 1-30 | 32.6 | 8.9 | 6.2 | 5.1 | 14 | 5.6 |
| Dooley Mountain | 156 | 32 | 11S | 40E | 5430 | 1-27 | 28.0 | 7.3 | 4.8 | 3.9 | 10 | 6.0 |
| POWDER RIVER | | | | | | | | | | | | |
| Anthony Lake | 155 | 18 | 7S | 37E | 7125 | 1-30 | 70.2 | 24.0 | 18.0 | 26.0 | 9 | 18.4 |
| Dooley Mountain | 156 | 32 | 11S | 40E | 5430 | 1-27 | 28.0 | 7.3 | 4.8 | 3.9 | 10 | 6.0 |
| Eilertson Meadows | 151B | 18 | 8S | 38E | 5400 | 1-31 | 34.0 | 8.5 | - | 3.7 | 10 | 6.8 |
| Gold Center | 249 | 21 | 9S | 36E | 5340 | 1-28 | 36.0 | 9.8 | 8.5 | 5.7 | 9 | 7.0 |
| Goodrich Lake | 157 | 34&35 | 8S | 38E | 6775 | 1-29 | 76.9 | 25.2 | 22.0 | - | 1 | 22.0 |
| PINE CREEK | | | | | | | | | | | | |
| Schneider Meadows | 161 | 35 | 6S | 45E | 5400 | 1-29 | 59.5 | 21.3 | 15.2 | 18.0 | 11 | 18.6 |

MALHEUR RIVER

BURNT RIVER

POWDER RIVER

PINE CREEK



OREGON SNOW SURVEYS, FEBRUARY, 1949

| DRAINAGE BASIN and SNOW COURSE | LOCATION | | | | | SNOW COVER MEASUREMENTS | | | | | | | |
|-------------------------------------------|-----------------------|-------|------|-------|-------|-------------------------|------------------------|---------------------|------|------|-----------------|-----------------------------------|--|
| | Number or State | Sec. | Typ. | Range | Elev. | Date of Survey | Snow Depth (in.) | Water Content (in.) | | | | Past Record Years of Record | |
| | | | | | | | | 1949 | 1948 | 1947 | Record (Inches) | | |
| GRANDE RONDE RIVER | | | | | | | | | | | | | |
| Aneroid Lake No. 1 | 183 | 16 | 4S | 45E | 7480 | 1-28 | 68.3 | 23.3 | 20.0 | 25.9 | 19 | 18.9 | |
| Aneroid Lake No. 2 | 183A | 16 | 4S | 45E | 7000 | 1-28 | 57.3 | 17.4 | 16.5 | 20.5 | 7 | 17.4 | |
| Anthony Lake | 155 | 18 | 7S | 37E | 7125 | 1-30 | 70.2 | 24.0 | 18.0 | 26.0 | 9 | 18.4 | |
| Beaver Reservoir | 188 | 8 | 5S | 37E | 5340 | 2-2 | 46.9 | 14.2 | 8.6 | 7.8 | 10 | 7.5 | |
| Camp Carson | 187 | 33 | 6S | 36E | 5970 | 1-30 | 40.5 | 11.3 | 7.1 | 7.4 | 6 | 5.9 | |
| Meacham | 221 | 24&25 | 1S | 35E | 4300 | 1-29 | 42.0 | 13.5 | 6.5 | 4.4 | 20 | 5.8 | |
| Moss Spring | 186A | 28 | 3S | 41E | 5850 | 1-31 | 67.1 | 21.5 | 21.5 | 17.8 | 11 | 14.5 | |
| Tollgate | 212 | 32 | 4N | 38E | 5070 | 1-29 | 78.6 | 29.1 | 20.5 | 16.7 | 17 | 16.1 | |
| L O W E R C O L U M B I A D R A I N A G E | | | | | | | | | | | | | |
| WALLA WALLA RIVER | | | | | | | | | | | | | |
| Tollgate | 212 | 32 | 4N | 38E | 5070 | 1-29 | 78.6 | 29.1 | 20.5 | 16.7 | 17 | 16.1 | |
| UMATILLA RIVER | | | | | | | | | | | | | |
| Emigrant Springs | 222 | 29 | 1N | 35E | 3925 | 1-29 | 43.2 | 13.7 | 5.4 | 3.3 | 20 | 5.5 | |
| Lucky Strike | 223 | 28 | 3S | 32E | 5050 | 1-27 | 40.4 | 11.2 | - | 8.2 | 9 | 7.4 | |
| Meacham | 221 | 24&25 | 1S | 35E | 4300 | 1-29 | 42.0 | 13.5 | 6.5 | 4.4 | 20 | 5.8 | |
| Tollgate | 212 | 32 | 4N | 38E | 5070 | 1-29 | 78.6 | 29.1 | 20.5 | 16.7 | 17 | 16.1 | |
| WILLOW CREEK | | | | | | | | | | | | | |
| Arbuckle Mountain | 241 | 33 | 4S | 29E | 5400 | 2-1 | 34.3 | 9.5 | 7.3 | 5.1 | 19 | 7.2 | |
| JOHN DAY RIVER | | | | | | | | | | | | | |
| Arbuckle Mountain | 241 | 33 | 4S | 29E | 5400 | 2-1 | 34.3 | 9.5 | 7.3 | 5.1 | 19 | 7.2 | |
| Beech Creek Summit | 246A | 4 | 12S | 30E | 4800 | 1-31 | 23.8 | 5.0 | 2.5 | 1.8 | 12 | 3.7 | |

OREGON SNOW SURVEYS, FEBRUARY, 1949

| DRAINAGE BASIN and SNOW COURSE | LOCATION | | | SNOW COVER MEASUREMENTS | | | | | | | | | |
|--------------------------------------|-----------------------|------|------|-------------------------|-------|----------------------|------------------------|---------------------|------|------|-----------------------|--------------------------------------------------|--|
| | Number or State | Sec. | Twp. | Range | Elev. | Date of Survey | Snow Depth (In.) | Water Content (In.) | | | Years of Record | Past Record Avg. Water Content (Inches) | |
| | | | | | | | | 1949 | 1948 | 1947 | | | |
| JOHN DAY RIVER (Cont'd) | | | | | | | | | | | | | |
| Blue Mountain Springs | 133 | 21 | 15S | 35E | 5900 | 1-27 | 41.5 | 11.9 | 7.0 | 9.3 | 18 | 9.4 | |
| Blue Mountain Summit | 141 | 6 | 12S | 36E | 5098 | 1-30 | 32.6 | 8.9 | 6.2 | 5.1 | 14 | 5.6 | |
| Gold Center | 249 | 21 | 9S | 36E | 5340 | 1-28 | 36.0 | 9.8 | 8.5 | 5.7 | 9 | 7.0 | |
| Izee Summit | 964 | 28 | 16S | 29E | 5293 | 1-27 | 31.8 | 8.9 | 6.2 | 3.7 | 13 | 5.6 | |
| Olive Lake | 245 | 14 | 9S | 33½E | 6000 | 1-30 | 55.3 | 17.0 | 12.0 | 15.6 | 13 | 10.2 | |
| Starr Ridge | 247B | 20 | 15S | 31E | 5150 | 1-27 | 26.3 | 6.4 | 2.6 | 2.6 | 13 | 3.8 | |
| CROOKED RIVER | | | | | | | | | | | | | |
| Derr | 343 | 14 | 13S | 23E | 5670 | 2-1 | 31.7 | 7.8 | 5.9 | 5.4 | 11 | 5.8 | |
| Marks Creek | 344 | 25 | 12S | 19E | 4540 | 1-28 | 28.1 | 5.9 | 1.8 | 0.7 | 11 | 3.0 | |
| Ochoco Meadows | 341 | 21 | 13S | 20E | 5200 | 1-29 | 40.2 | 11.3 | 6.0 | 2.8 | 19 | 6.5 | |
| DESCHUTES RIVER | | | | | | | | | | | | | |
| Caldwell Ranch | 326 | 30 | 21S | 8E | 4400 | 1-13 | 40.0 | 9.8 | - | 3.3 | 7 | 4.9 | |
| Cascade Summit | 321 | 7 | 23S | 6E | 4880 | 1-31 | 89.0 | 32.1 | 13.8 | 18.0 | 18 | 18.4 | |
| Crescent Lake | 325 | 11 | 24S | 6E | 4760 | 1-31 | 45.8 | 15.0 | 4.9 | 4.2 | 13 | 7.9 | |
| Hogg Pass | 351 | 24 | 13S | 7½E | 4755 | 2-2 | 116.8 | 43.4 | 21.3 | 29.1 | 11 | 21.8 | |
| HOOD RIVER | | | | | | | | | | | | | |
| Tilly Jane - Mt. Hood | 432 | 15 | 2S | 9E | 6000 | 1-30 | 95.9 | 41.6 | 18.4 | - | 1 | 18.4 | |
| SANDY RIVER | | | | | | | | | | | | | |
| Phlox Point - Mt. Hood | 452 | 6 | 3S | 9E | 5300 | 2-2 | 137.2 | 56.4 | 36.4 | 49.2 | 11 | 32.1 | |
| Still Creek | 451 | 25 | 3S | 8½E | 3700 | 2-2 | 85.3 | 31.5 | 12.7 | 14.9 | 11 | 11.0 | |



OREGON SNOW SURVEYS, FEBRUARY, 1949

| DRAINAGE BASIN and SNOW COURSE | LOCATION | | SNOW COVER MEASUREMENTS | | | | | | | |
|--------------------------------------|-----------------------|-----------------------|-------------------------|------------------------|---------------------|------|------|-----------------------|-------------------------------------------------|------|
| | Number or State | Sec. Twp. Range Elev. | Date of Survey | Snow Depth (In.) | Water Content (In.) | | | Years of Record | Past Record Av. Water Content (Inches) | |
| | | | | | 1949 | 1948 | 1947 | | | |
| CLACKAMAS RIVER | | | | | | | | | | |
| Peavine Ridge | 591 | 14&15 GS 7E 3500 | 2-1 | 65.6 | 19.0 | 6.4 | 9.3 | 11 | | 8.5 |
| WILLAMETTE RIVER | | | | | | | | | | |
| Cascade Summit | 321 | 7 23S 6E 4880 | 1-31 | 89.0 | 32.1 | 13.8 | 18.0 | 18 | | 18.4 |
| Champion | 522 | 12 23S 1E 4500 | 2-1 | 75.9 | 31.1 | 9.0 | 5.3 | 10 | | 11.7 |
| Hogg Pass | 351 | 24 13S 7 1/2 E 4755 | 2-2 | 116.8 | 43.4 | 21.3 | 29.1 | 11 | | 21.8 |
| McKenzie | 531 | 35 15S 7 3/4 E 4800 | 1-30 | 112.3 | 41.1 | 24.0 | - | 5 | | 15.9 |
| Marion Forks | 553 | 28 11S 7E 2730 | 2-2 | 63.0 | 20.2 | 3.9 | 7.6 | 8 | | 6.7 |
| Mary's Peak | 541 | 21 12S 7W 3620 | 1-24 | 56.4 | 18.7 | 1.8 | 2.9 | 9 | | 4.3 |
| Santiam Junction | 552 | 14 13S 7E 3990 | 2-2 | 81.9 | 28.8 | 9.4 | 15.0 | 8 | | 12.6 |
| INTERIOR DRAINAGE | | | | | | | | | | |
| SILVER LAKE | | | | | | | | | | |
| Silver Creek | 942 | 25&26 29S 13E 4900 | 1-29 | 10.3 | 4.4 | 0.0 | T | 9 | | 2.3 |
| HARNEY BASIN | | | | | | | | | | |
| Idylwild Camp | 961A | 33 20S 31E 5200 | 1-30 | 23.4 | 5.2 | 2.6 | 2.2 | 16 | | 3.7 |
| Izee Summit | 964 | 28 16S 29E 5293 | 1-27 | 31.8 | 8.9 | 6.2 | 3.7 | 13 | | 5.6 |
| Rock Spring | 134 | 23 18S 32E 5100 | 1-29 | 24.5 | 5.8 | 3.0 | 2.3 | 13 | | 4.3 |
| Starr Ridge | 247B | 20 15S 31E 5150 | 1-27 | 26.3 | 6.4 | 2.6 | 2.6 | 13 | | 3.8 |
| WARNER LAKE | | | | | | | | | | |
| Camas Creek | 911A | 5 39S 21E 5720 | 1-28 | 33.9 | 9.3 | 3.9 | 3.1 | 10 | | 6.4 |

OREGON SNOW SURVEYS, FEBRUARY, 1949

| DRAINAGE BASIN and SNOW COURSE | LOCATION | | SNOW COVER MEASUREMENTS | | | | | | |
|--------------------------------------|-----------------------|-----------------------|-------------------------|------------------------|---------------------|------|------|-----------------------|-------------------------------------------------|
| | Number or State | Sec. Twp. Range Elev. | Date of Survey | Snow Depth (In.) | Water Content (In.) | | | Years of Record | Past Record Av. Water Content (Inches) |
| | | | | | 1949 | 1948 | 1947 | | |

W E S T C O A S T D R A I N A G E

UMPQUA RIVER

| | | | | | | | | | |
|------------------------|------|----------------|------|------|------|------|------|----|------|
| Champion | 522 | 12 23S 1E 4500 | 2-1 | 75.9 | 31.1 | 9.0 | 5.3 | 10 | 11.7 |
| Diamond Lake | 743 | 29 27S 6E 5315 | 1-31 | 57.0 | 19.1 | 11.8 | 9.3 | 20 | 12.3 |
| N. Umpqua Rr. Lake Ck. | 742 | 19 26S 6E 4215 | 1-15 | 51.4 | 15.6 | 5.6 | 3.8 | 5 | 3.7 |
| Whaleback | 7217 | 3 31S 2E 5140 | 2-1 | 73.2 | 26.1 | - | 13.5 | 9 | 20.7 |

ROGUE RIVER

| | | | | | | | | | |
|--------------------------|------|----------------|------|------|------|------|------|----|------|
| Althouse | 7216 | 17 41S 7W 4400 | 1-31 | 14.9 | 3.8 | - | 2.2 | 10 | 1.9 |
| Annie Spring | 831 | 19 31S 6E 6018 | 1-28 | 83.3 | 31.5 | 18.4 | 20.5 | 16 | 25.4 |
| Big Red Mountain | 729 | 31 40S 1W 6500 | 1-29 | 53.1 | 17.4 | - | 14.1 | 12 | 16.6 |
| Grayback Peak | 727 | 9 40S 5W 6000 | 1-31 | 38.3 | 13.2 | - | 3.9 | 12 | 13.6 |
| Hyatt Prairie Reservoir | 723 | 15 39S 3E 4900 | 1-27 | 36.2 | 10.2 | 3.5 | 2.9 | 14 | 6.1 |
| Hobart Lake | 7221 | 17 40S 3E 5010 | 1-28 | 23.3 | 6.6 | 0.4 | - | 1 | 0.4 |
| Little Red Mtn. | 7210 | 25 40S 2W 6500 | 1-29 | 41.9 | 13.6 | - | 10.2 | 11 | 10.5 |
| Park Headquarters | 838 | 8 31S 6E 6450 | 1-28 | 98.8 | 38.1 | 24.2 | 29.9 | 3 | 24.2 |
| Scrapp Mountain (Calif.) | 7220 | 9 47N 10W 6200 | 1-30 | 57.2 | 22.0 | 7.1 | 7.3 | 7 | 13.1 |
| Silver Burn | 7219 | 30 30S 4E 3720 | 1-29 | 46.3 | 13.3 | 3.1 | 3.7 | 11 | 5.8 |
| Siskiyou Summit | 728 | 17 40S 2E 4630 | 2-1 | 28.5 | 8.4 | 0.6 | 1.9 | 12 | 4.1 |
| South Fork Canal | 7218 | 12 33S 3E 3500 | 1-29 | 24.9 | 7.6 | 0.0 | 2.3 | 11 | 1.5 |
| Wagner Butte | 7213 | 1 40S 1W 6900 | 1-26 | 44.2 | 14.0 | 8.7 | 7.0 | 13 | 9.2 |
| Whaleback | 7217 | 3 31S 2E 5140 | 2-1 | 73.2 | 26.1 | - | 13.5 | 9 | 20.7 |

KLAMATH LAKE BASIN

| | | | | | | | | | |
|------------------|-----|-----------------|------|------|------|------|------|----|------|
| Annie Spring | 831 | 19 31S 6E 6018 | 1-28 | 83.3 | 31.5 | 18.4 | 20.5 | 10 | 25.4 |
| Beatty 2/ | | 22 36S 12E 4300 | 1-31 | 6.5 | 1.2 | 0.0 | 1.0 | 21 | 0.8 |
| Bly 101 Ranch 2/ | | 22 35S 14E 4800 | 1-31 | 18.0 | 4.2 | 0.0 | 0.8 | 22 | 1.8 |
| Chemult No. 1 | 834 | 21 27S 8E 4760 | 1-31 | 31.4 | 8.2 | 4.1 | 1.0 | 12 | 7.0 |

2/ -- Water Content determined by melting one measured sample (California Oregon Power Company's Station.)



OREGON SNOW SURVEYS, FEBRUARY, 1949

| DRAINAGE BASIN and SNOW COURSE | LOCATION | | SNOW COVER MEASUREMENTS | | | | | | | | | |
|--------------------------------------|-----------------------|-----------------------|-------------------------|------------------------|---------------------|------|-----------------|------|-----------------------|-------------------------------------------------|--|--|
| | Number or State | Sec. Twp. Range Elev. | Date of Survey | Snow Depth (In.) | Water Content (In.) | | | | Years of Record | Past Record Av. Water Content (Inches) | | |
| | | | | | 1947 | 1948 | 1949 | 1950 | | | | |
| KLAMATH LAKE BASIN (Cont'd) | | | | | | | | | | | | |
| Chiloquin 2/ | 34 | 34S 7E | 4187 | 1-31 | 8.5 | 2.0 | 0.0 | 0.8 | 19 | 2.0 | | |
| Crowder Flat (Calif.) | 30 | 47N 11E | 5200 | 2-2 | 22.8 | 5.1 | 0.0 | 0.6 | 9 | 2.5 | | |
| Crystal 2/ | 26 | 34S 6E | 4200 | 1-31 | 31.0 | 11.0 | 2.0 | 3.0 | 19 | 5.9 | | |
| Fort Klamath 2/ | 22 | 33S 7 1/2 E | 4150 | 1-31 | 21.0 | 5.6 | 0.0 | 1.1 | 22 | 3.5 | | |
| Gerber | 839 | 39S 13E | 4850 | 1-31 | 17.2 | 4.8 | New Snow Course | | | | | |
| Harriman Lodge 2/ | 3 | 36S 6E | 4200 | 1-31 | 26.0 | 6.5 | 0.0 | 2.4 | 22 | 3.4 | | |
| Hyatt Prairie Res. | 723 | 39S 3E | 4900 | 1-27 | 36.2 | 10.2 | 3.5 | 2.9 | 14 | 6.1 | | |
| Kirk 2/ | 1 | 33S 7E | 4533 | 1-31 | 32.0 | 8.5 | 0.9 | 1.9 | 22 | 4.9 | | |
| Lake of the Woods No. 1 | 835 | 37S 5E | 4960 | 1-31 | 34.2 | 11.8 | 2.7 | 3.9 | 12 | 5.2 | | |
| Park Headquarters | 838 | 31S 6E | 6450 | 1-28 | 98.8 | 38.1 | 24.2 | 29.9 | 3 | 24.2 | | |
| Quartz Mountain | 811 | 38S 16E | 5320 | 2-1 | 25.4 | 6.6 | T | 2.6 | 19 | 4.7 | | |
| Quartz Mountain 2/ | 33 | 37S 16E | 5504 | 1-31 | 20.0 | 5.8 | 2.2 | 4.0 | 19 | 5.2 | | |
| Sun Mountain | 836 | 32S 7 1/2 E | 5350 | 1-31 | 56.1 | 19.3 | 7.8 | 11.8 | 11 | 15.4 | | |
| Taylor Butte | 842 | 33S 11E | 5100 | 1-27 | 20.4 | 4.8 | 0.0 | 0.6 | 12 | 3.2 | | |
| Yamsey 2/ | 20 | 31S 11E | 4600 | 1-31 | 16.5 | 4.1 | 0.0 | 0.0 | 18 | 1.9 | | |
| GOOSE LAKE BASIN | | | | | | | | | | | | |
| Camas Creek | 911A | 39S 21E | 5720 | 1-28 | 33.9 | 9.3 | 3.9 | 3.1 | 10 | 6.4 | | |
| Quartz Mountain | 811 | 38S 16E | 5320 | 2-1 | 25.4 | 6.6 | T | 2.6 | 19 | 4.7 | | |
| Quartz Mountain 2/ | 33 | 37S 16E | 5504 | 1-31 | 20.0 | 5.8 | 2.2 | 4.0 | 19 | 5.2 | | |

2/ Water content determined by melting one measured sample (The California Oregon Power Company's station.)



The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and corps of State Watermasters
Oregon State Highway Engineers

FEDERAL

Department of Agriculture
Forest Service
Soil Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
War Department
Army Engineer Corps

PUBLIC UTILITIES

California-Pacific Utilities Company
Portland General Electric Company
The California Oregon Power Company

MUNICIPALITIES

City of Baker
City of Corvallis
City of LaGrande
City of The Dalles

IRRIGATION DISTRICTS

Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
East Fork Irrigation District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users Incorporated
Medford Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Valo-Oregon Irrigation District
Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

Amalgamated Sugar Company
South Wasco Soil Conservation District
The Crag Rats-Hood River-Oregon



